

OIB - HU-25A Guardian #524 07/19/17 Science Report

Aircraft: [HU-25A Guardian - LaRC #524](#) ([See full schedule](#))

Date: Wednesday, July 19, 2017

Mission: OIB

Mission Location: Thule, Greenland

Mission Summary:

Mission: Hiawatha Lakes

This short mission is intended to measure properties of the numerous supraglacial lakes that form during summer in the area above Hiawatha Glacier. It is expected that the new narrow-pulse laser of the ATM may be able to measure the depth of these lakes with fairly high resolution.

Weather today was almost totally clear, both at Hiawatha and at our base at Thule, with just a few scattered low clouds south of Hiawatha. However we encountered a problem when we found that the half-dozen perennial meltwater lakes we had targeted on the upper part of Hiawatha Glacier were simply not present. Vestiges of all of these lakes were visible in the form of deformed ice and possible lake shorelines, but the lakes themselves had apparently drained. We are very confident that they were not just ice-covered - the water simply wasn't there. Fortunately our pilots noticed patches of blue to the north of Hiawatha, and we turned toward them. We successfully overflew around a dozen supraglacial lakes in this area, roughly between Hiawatha and the southern part of lower Humboldt Glacier. Then we turned back to Hiawatha, flew down the centerline of that glacier, and overflew the proglacial lake and river in front of it twice.

We flew two ramp passes at Thule, one at 1200' AGL, and another at 1500' AGL. All instruments performed well.

Data volumes:

DMS: 15 Gb

FLIR: 1 Gb

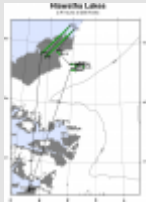
Headwall: 53 Gb

Narrow Swath ATM: 41 Gb

total data collection time: 2.4 hrs

Images:

Map of Hiawatha Lakes



[Read more](#)

Supraglacial lake



[Read more](#)

Flank of ice sheet



[Read more](#)

Meltwater channels



[Read more](#)

Submitted by: John Sonntag on 07/20/17

Related Flight Report:

HU-25A Guardian #524 07/19/17

Flight Number: OIB Summer Science Data Flight #3

Payload Configuration: ATM

Nav Data Collected: No

Total Flight Time: 2.7 hours

Submitted by: Luci Crittenden on 07/19/17

Flight Segments:

From:	BGTL	To:	BGTL
Start:	07/19/17 13:07 Z	Finish:	07/19/17 15:48 Z
Flight Time:	2.7 hours		
Log Number:	17F001	PI:	Nathan Kurtz
Funding Source:	Thomas Wagner - NASA - SMD - ESD Cryospheric Science		
Purpose of Flight:	Science		
Comments:	OIB completed the Hiawatha Lakes mission out of Thule today. No new problems with the aircraft and the science instruments performed well.		

Flight Hour Summary:

	17F001
Flight Hours Approved in SOFRS	44.2
Total Used	39.5
Total Remaining	4.7

17F001 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
07/10/17	OIB Summer Science ICF	Check	3.7	3.7	40.5	
07/12/17	2017 OIB Summer Science Transit	Transit	2.9	6.6	37.6	
07/12/17	2017 OIB Summer Science Transit	Transit	2.3	8.9	35.3	
07/13/17	2017 OIB Summer Science Transit BGSF-BGTL	Transit	1.9	10.8	33.4	

07/17/17	OIB Summer Science Data Flight#1	Science	3.8	14.6	29.6
07/18/17	OIB Summer Science Data Flight #2	Science	3.7	18.3	25.9
07/19/17	OIB Summer Science Data Flight #3	Science	2.7	21	23.2
07/24/17	OIB Summer Science Data Flight #4	Science	3.9	24.9	19.3
07/25/17	OIB Summer Science Data Flight #5 & #6	Science	3.7	28.6	15.6
07/25/17	OIB Summer Science Data Flight #5 & #6	Science	3.5	32.1	12.1
07/26/17	OIB Transit Legs BGTL-BGSF-KBGR	Transit	2	34.1	10.1
07/26/17	OIB Transit Legs BGTL-BGSF-KBGR	Transit	3.7	37.8	6.4
07/27/17	OIB Transit Leg KBGR-KLFI	Transit	1.7	39.5	4.7

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

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